Draft summary of the Engineering and Operations Work Group Meeting
Oroville Facilities Relicensing (FERC Project No. 2100)
January 25, 2002

The Department of Water Resources (DWR) hosted the Engineering and Operations Work Group on January 25, 2002 in Oroville.

A summary of the discussions, decisions made, and action items is provided below. This summary is not intended to be a transcript, analysis of the meeting, or to indicate agreement or disagreement with any of the items summarized, except where expressly stated. The intent is to present an informational summary for interested parties who could not attend the meeting.

Attachment 1 Meeting Agenda
Attachment 2 Meeting Attendees
Attachment 3 Flip Chart Notes
Attachment 4 Revised Study Plan E3
Attachment 5 Flood Management Workshop summary
Attachment 6 Power Economics

Introduction
Attendees were welcomed to the Engineering and Operations Work Group meeting. The meeting objectives and action items were discussed. The meeting agenda and list of meeting attendees and their affiliations are appended to this summary as Attachments 1 and 2, respectively. Flip chart notes are included as Attachment 3.

Critical Path Study Plans E1 and E6
The facilitator distributed additional copies of the Engineering and Operations Study Plans to the attendees who requested them. Engineering and Operations Study Plans are included as attachments to the November 16, 2001 meeting summary posted on the Oroville Facilities Relicensing web site. Curtis Creel, Operations Resource Area Manager for DWR explained that the purpose of reviewing the critical path Study Plans is to flag any issues prior to Monday's Plenary Group meeting. At the Plenary Group meeting, participants will be asked for any policy level or technical type 'heartburn' issues they have with the Critical Path Study Plans. The Plenary Group will then try to resolve the policy level issues, while the technical type issues will be brought back to the individual Work Groups for resolution. Curtis explained that the Study Plans identified as critical path fall into one or more of the following categories; 1) studies that require two full years of data collection; 2) studies that have time-sensitive data collection needs; and 3) studies that are needed to support other Study Plans.

Craig Jones representing the State Water Contractors noted that since the modeling studies are in support of other studies, it is hard to determine if the geographic scope is correct, particularly with Study Plan E1. He suggested that we make sure the Engineering and Operations Study Plans maintain flexibility to be able to meet the needs of other Work Groups' Study Plans. Bill Smith of the consulting team agreed with Craig's comment and explained that when writing the Study Plans he had the same concerns. Curtis explained that ongoing coordination meetings occurred between Study Plan authors from other Work Groups to get feedback on what they will need; in many cases, they confirmed the original assumptions. For others, we may need to go back and take another look after the other Work Groups add more detail to their Study Plans. Craig explained that he feels comfortable with this approach with the understanding that adjustments may be necessary after we get further into the studies. The facilitator added that there would be checkpoints throughout the study phase during which time the Engineering and Operations Work Group can evaluate preliminary data and make adjustments if necessary.

One participant suggested that the Work Group maintain an open mind and consider all options rather than closing some off because of past experiences. He added that sometimes pre-

conceived notions get in the way of creative thinking or consideration of outcomes that might otherwise be unexpected. After some discussion, Curtis agreed that the Work Group needs to maintain an open process so people can feel comfortable sharing their thoughts, even if they conflict with the experts' opinions. Ed Craddock, with Butte County noted that many of the locals do not have the time to read everything and he asked if we could enlist the help of a third party to review what we are doing to keep bias out of the process. Bill Smith reminded the group that a formal peer review process can be very expensive and time-consuming and many of the models under consideration have undergone significant review by numerous modelers. Lori Brown with DWR added that while DWR had hired consultants they feel are experts, such as Bill Smith and Howard Lee, a strength of the collaborative process is the ability for anyone with interest and/or expertise to participate and if you are interested in bringing your own experts into the process, you are encouraged to do this. After some discussion, one participant suggested that perhaps Bill could develop a simplified summary report that describes the strengths and weaknesses of the models under consideration.

Participants discussed the temperature data currently available for the modeling studies. Curtis Creel explained that while DWR has done studies in the low flow section of the Feather River for years, temperature data throughout the system has not been systematically logged. They are however beginning to capture that data now. Ken Kules noted that a table included identifies a temperature data collection point at the discharge into the Feather River from the Afterbay and asked if the information really needed is the temperature of water going into the canals to the farms. The Facilitator pointed out that Study Plan W1addresses agricultural water use and temperature and Sharon Stohrer with the State Water Resources Control Board is helping establish temperature probes at the appropriate locations to address the agricultural needs under beneficial uses. Curtis reminded the Work Group that our goal is to provide temperature results that can meet the needs of the Environmental Work Group and we will continue to work toward that goal. He added that he will confirm with the Environmental Work Group that the model development will get the Environmental Work Group what they need to answer their questions related to agricultural water temperatures.

A participant asked if the models would use historical data to predict future scenarios and, if so, pointed out the need to be careful with extreme highs and lows. Bill Smith acknowledged the need to be careful when using historic data and suggested that sometimes, historic data is used to simply calibrate the model.

A participant asked if it would be possible to display all of the temperature data, flow and location of data collection points and modeling nodes on a GIS layer. The group agreed this would be a useful tool and they will ask the GIS group to work on developing the desired level of detail.

Craig Jones asked that all Study Plans include statements describing how the Work Group would be kept informed during the study phase and how adjustments could occur once preliminary data is available to consider. Participants agreed that the Study Plans need to be expanded to include these anticipated check-in points. Craig also pointed out that some sections still include 'To be developed' language and these sections need to be completed.

The Work Group discussed the idea that preliminary model runs may be important in determining the appropriate geographic scope for SP-E6. Curtis reminded the Work Group that the Environmental Work Group is asking for the modeling to go all the way to the confluence with the Sacramento River, although the Engineering and Operations Work Group thinks this may not be necessary. Bill Smith explained that we could do a sensitivity analysis to determine if the geographic scope should extend beyond the confluence with the Yuba River or if the Feather River temperature reaches equilibrium at that point, after which releases from the Oroville Complex have no effect on temperature. The purpose of the sensitivity analysis is to see how far downstream the water travels before equilibrium is reached. Curtis reiterated that the model already goes to the confluence of the Sacramento River, but rather than extend the effort to calibrate beyond the confluence with the Yuba River, we could just do some runs to look at the

Feather River itself. Bill Lewis asked if that concept is supported in the Environmental Work Group. Craig Jones reminded participants that the desires of some participants in the Environmental Work Group need to be balanced with model capability, costs and whatever value may be added to the process from the additional information a larger scope provides.

Craig Jones suggested the Work Group consider adding a sentence in the modeling Study Plans to reflect that the scopes identified are preliminary until further guidance comes from the other Work Groups. Participants discussed a global statement to be included in the geographic scope section and agreed to add the following sentence to the modeling Study Plans:
"Geographic scope may be refined as additional information is developed and needs are identified through collaboration with other Work Groups."

Bill Lewis asked if E1 could incorporate the movement of water around for storage. Curtis explained that the model could identify the amount of water released and stored for the State Water Project. Bill asked if Curtis could describe how the Oroville operations and storage fit in with other State Water Project reservoirs. Curtis stated that the current operational strategy is if we have the opportunity to move water through the system, we will. Bill asked if that meant that the southern California reservoirs would be filled before opportunities to fill Oroville. Curtis responded that southern California reservoirs are not conservation reservoirs but rather emergency supply reservoirs and last year, less than 10% of the water released from Oroville went to State Water Project needs for storage and delivery. Bill asked if DWR is specifically moving water that could be stored here to somewhere else to be stored. Craig Jones suggested a need to address this and explain how and why the water is released from Oroville Dam. Curtis added that we could address this by looking at a base run and breaking out the purposes of the releases.

Participants approved the Critical Path Engineering and Operations Study Plans with the addition of the geographic scope statement indicated above.

Study Plan E3 and Power Economics

Study Plan E3

Rashid Ahmad, Engineering Resource Area Manager for DWR distributed and discussed Study Plan E3. The revised SP-E3 is included in Attachment 4. He asked the Engineering and Operations Work Group to review the revised Study Plan and provide their comments at their next meeting. Rashid explained that while no conceptual changes were made, some changes were made to clarify language, better explain power generation, add more references to FERC procedures, and discuss aesthetics considerations.

Rashid also distributed a summary of the December 17, 2001 Flood Management Workshop. The summary is included as Attachment 5. He acknowledged that most of the Engineering and Operations Work Group participants attended the workshop and the general feeling was that the workshop was very successful and brought together many people that may not normally come together to discuss flood management issues.

Power Economics

Howard Lee, representing the consulting team, delivered a presentation on Power Economics and led a discussion on the specific operation of the Oroville complex and information that must be included in all relicensing applications to FERC. The presentation is included as Attachment 6. Howard explained how a license application must describe project operations on a day-by-day, week-by-week, and year-by-year basis; he explained that all of this information goes into Exhibit H. Participants discussed power value and facilities costs and asked that a further discussion of project economic analysis and Study Plan E3 be placed on the next Engineering and Operations Work Group agenda.

Craig Jones asked that Study Plan E8 also be an agenda item for the next Engineering and Operations Work Group meeting so participants could discuss how forecasting future power

prices will be factored into decision-making at Oroville Facilities. He also suggested that the Engineering and Operations Work Group consider identifying a joint task force with the Environmental Work Group and perhaps include the Recreation Work Group to further their understanding of specific needs with regard to modeling activities. Curtis indicated that the RAMS from those Work Groups have also indicated a desire to form such an inter-Work Group task force.

Action Items – December 5, 2001 Engineering and Operations Work Group Meeting
A summary of the December 5, 2001 Engineering and Operations Work Group is posted on the relicensing web site. The Facilitator reviewed the status of action items from that meeting as follows:

Action Item #EO35:	Provide summary of information related to agricultural return flows to the Feather River.
Status:	Curtis reported he had not yet contacted anyone at DWR's Northern District and with their workload, this effort may require DWR bringing a retiree back to work on this. He will follow-up and report back to the Work Group when he has additional information.
Action Item #EO36:	Distribute corrected meeting schedule for 2002.
Status:	The facilitator distributed the revised meeting schedule.

Carryover Action Items
The Facilitator reviewed the status of the carryover action items as follows:

Action Item #EO27:	Prepare a description of the issue transfer process, identify point people within other Work Groups, and outline the proposed approach to evaluating power economics, including the relationship to socioeconomic studies.
Status:	Waiting for more information from Wayne Dyok.
Action Item #EO29:	Get results from the 2030 simulation model from DWR when available.
Status:	Results expected by May 2002
Action Item #EO30:	Check on the availability of the MS Projects Critical Path file.
Status:	Expected in late February
Action Item #EO31:	Check with Steve Reynolds about ground water seepage issue.
Status:	Ralph Torres will provide information when available.

Next Steps
Curtis Creel explained that he and Bill Smith have been discussing more specific logistics related to the modeling Study Plans, including how inputs will be developed, defining check-in points with the Engineering and Operations Work Group and describing what role the Engineering and Operations Work Group participants may play in physically running the models. They will present a modeling scheme to the Engineering and Operations Work Group at their next meeting.

Calendar of 2002 meetings – The Facilitator asked the participants to review the 2002 meeting schedule and identify if any of the Engineering and Operations Work Group meeting dates need to be adjusted. She explained that the collaborative's meetings have been grouped together so FERC staff can attend a Plenary Group meeting and stay for several of the Work Group meetings. Participants agreed that the meeting dates were fine with the exception of the November meetings that were scheduled for the week of Thanksgiving. The Engineering and Operations Work Group suggested the November block of meetings be moved forward one week to avoid the holiday.

Curtis explained to the participants that the Plenary Group was going to meet the following Monday and be asked for their heartburn issues related to the identified Critical Path Study Plans. Since the next Engineering and Operations Work Group meeting is not scheduled until March 1, Curtis asked participants if they would like to have an informal conference call after the Plenary Group meeting to hear what, if any, heartburn issues were raised for the Engineering and Operations Critical Path Study Plans. The participants agreed that a briefing on the Plenary

Group activities would be appropriate and agreed that a conference call be held on February 1, from 1:00pm to 2:00pm. A conference call number was established.

Next Meeting
The Engineering and Operations Work Group agreed to meet on:
Date: March 1
Time: 10:00am – 3:00pm
Location: Oroville Field Division, Oroville

Agreements Made
The Engineering and Operations Work Group approved the Critical Path Study Plans with a revision to the Geographic Scope section.
The Engineering and Operations Work Group agreed to participate in a conference call on February 1, from 1:00pm to 2:00pm to hear a briefing on Plenary Group heartburn issues associated with Engineering and Operations Critical Path Study Plans.

Action Items
The following list of action items identified by the Engineering and Operations Work Group includes a description of the action, the participant responsible for the action and item status.

Action Item #EO37:	Check with Environmental Work Group to make sure we capture effects related to Agricultural temperature needs and bring back to the Engineering and Operations Work Group for review of modeling adequacy.
Responsible:	DWR
Due Date:	March 1, 2002
Action Item #EO38:	Consider an outside review of the models after they have been developed.
Responsible:	DWR/Collaborative
Due Date:	As needed
Action Item #EO39:	Add a GIS layer recording temperature and flow data collection points.
Responsible:	DWR
Due Date:	When available
Action Item #EO40:	Include in E3 an analysis that addresses power impacts from potential changes resulting from other studies.
Responsible:	Engineering and Operations Work Group
Due Date:	April 2002